

***Kindly add the following new heading between lines 22 and 23 at page 1
of the specification:***

SUMMARY OF THE INVENTION

***Kindly add the following new heading between lines 3 and 4 at page 3 of
the specification:***

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

In the Claims¹

***Kindly cancel Claims 1, 2, 3, 5, 11 and 12 without prejudice or disclaimer
of their subject matter.***

Kindly amend Claims 4, 6-10 and 13-16 to read as follows:

4. (Twice amended) A method of depositing a metallic layer on an exposed
surface of previously deposited insulating layer on a substrate, said method
comprising:

treating the exposed surface with hydrogen or a gaseous source of hydrogen
in the presence of a plasma; and

depositing the metallic layer over the exposed surface,

¹ A copy of any revised claims showing additions and deletions
thereto is attached as ATTACHMENT "A".

wherein the hydrogen treatment occurs prior to or during the deposition of the metallic layer, and wherein the extent of the hydrogen treatment is such that the x-ray diffraction peak half width on a crystallographic plane of the deposited metallic layer is narrowed.

6. (Twice amended) The method as claimed in Claim 4 wherein the plasma is an Inductively Coupled Plasma.

7. (Amended) The method as claimed in Claim 6 wherein the substrate is placed on an RF biased platen.

8. (Amended) The method as claimed in Claim 7 wherein the platen is heated.

9. (Twice amended) A method of depositing a metallic layer on an exposed surface of previously deposited insulating layer on a substrate, said method comprising:

treating the exposed surface with hydrogen or a gaseous source of hydrogen in the presence of a plasma; and

depositing the metallic layer over the exposed surface,

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wherein the hydrogen treatment occurs prior to or during the deposition of the metallic layer, and wherein the plasma is supplied by a Reactive Ion Etching process.

10. (Amended) The method as claimed in Claim 9 wherein the hydrogen treatment time is less than 15 minutes.

13. (Twice amended) A method of depositing a metallic layer including the modification of its crystallographic structure by the use of atomic hydrogen, wherein the metallic layer is titanium or a titanium alloy and the modification includes the enhancement of the <002> crystallographic orientation of the titanium or alloy.

14. (Twice amended) A method of depositing a metallic layer including the modification of its crystallographic structure by the use of atomic hydrogen, wherein the metallic layer is copper, copper alloy, aluminium, or an aluminium alloy and the modification includes the enhancement of the <111> crystallographic.

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